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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,005

05/03/2006

Tatsuji Ishii

071971-0551

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20277 7590 05/01/2009
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EXAMINER

TRAN, KHAI

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

05/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,005	Applicant(s) ISHII, TATSUJI	
	Examiner KHAI TRAN	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/93/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/3/2006, 1/08/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriai et al (US 2005/0070237) hereinafter Moriai in view of Hoda et al (US 2004/0135929) cited by the Applicant.

Regarding claim 1, Moriai discloses a phase error correction circuit as shown in Figure 3, comprising: a complex phase rotator (a phase rotator unit 40) for multiplying an input VSB (vestigial-sideband) signal by a phase correction signal and outputting a resultant signal (see [0062]); a waveform equalizer (42) for performing waveform

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distortion correction to the signal output from the specific frequency component elimination filter and outputting a resultant signal (see [0063]); and a phase correction signal generator (a second phase error detection unit 56) for detecting a phase error based on the signal output from the waveform equalizer and outputting a complex signal corresponding to the detected phase error as the phase correction signal ([0070]).

Moriai fails to disclose a specific frequency component elimination filter for eliminating a specific frequency component from the signal output from the complex phase rotator and outputting a resultant signal.

Hoda discloses a specific frequency component elimination filter for eliminating a specific frequency component from the signal output from the complex phase rotator and outputting a resultant signal (see Fig. 3, an NTSC elimination filter 52, see [0029]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the specific frequency component elimination filter for eliminating a specific frequency component from the signal output from the complex phase rotator and outputting a resultant signal as taught by Hoda into the teachings of Moriai in order to cancel or eliminate frequency component and reduce error signal.

Regarding claim 2, Moriai discloses wherein the waveform equalizer receives a complex signal from the specific frequency component elimination filter and outputs a real signal as the resultant signal obtained from the waveform distortion correction (see [0063]).

Allowable Subject Matter

4. Claims 3-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Moriai and Hoda fail to disclose wherein the phase correction signal generator includes a Hilbert transformer for performing Hilbert transform to the signal output from the waveform equalizer and outputting a complex signal obtained from the Hilbert transform and detects the phase error based on the Hilbert-transformed complex signal; wherein the phase error detector includes: a slicer for estimating an original signal symbol value of the VSB signal from an in-phase component of an input complex signal; a subtracter for obtaining a difference between an in-phase component of the Hilbert-transformed complex signal and the estimated signal symbol value output from the slicer; and an integrator for obtaining a product of the difference output from the subtracter and a quadrature component of the Hilbert-transformed complex signal and outputting a resultant product as the phase error.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shohara (U.S. Pat. 6,816,716) discloses a radio frequency control for communication system.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KHAI TRAN/
Primary Examiner, Art Unit 2611

April 28, 2009